

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number
WO 2004/012912 A3

(51) International Patent Classification⁷: C06C 7/00

(21) International Application Number:
PCT/US2003/023615

(22) International Filing Date: 29 July 2003 (29.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/400,502 5 August 2002 (05.08.2002) US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

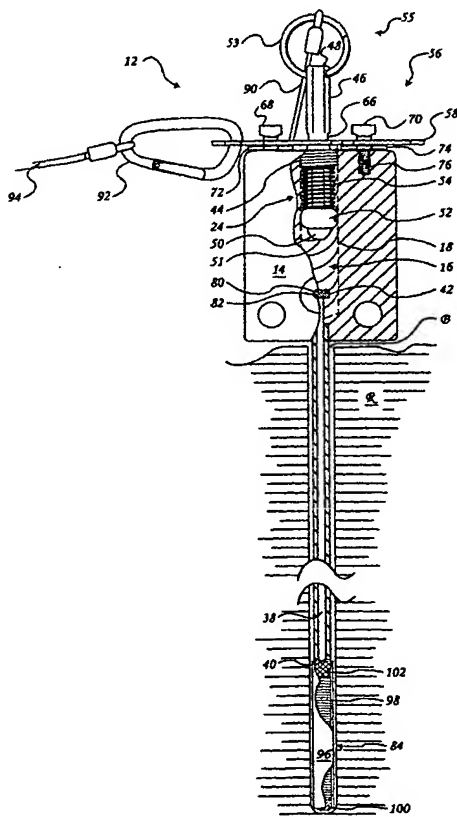
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

[Continued on next page]

(54) Title: HANDHELD TOOL FOR BREAKING UP ROCK



(57) Abstract: A tool (12) has a body (14) with a barrel (18) having oppos-
ing threaded and fitted openings (30 and 28). An actuator pin tube (26), for
slidably engaging an actuator pin (38) having a tip (40) opposing a retention
head (42), extending from the fitted opening (30). A spring assembly (24),
disposed in the barrel (18), has a hammer guide (44) engaged in the threaded
opening (28) with a hammer (46) slidably engaged therein, a handle me-
chanism (55) disposed at one end and a spring retainer (52) disposed adjacent
the other end of the hammer (46) before a hammerhead (51), and a spring
(54) engaged between the hammer guide (44) and the spring retainer (52).
A release mechanism (56) engages the hammer (46). A kit (108) containing
the tool (12) and a method of operating the tool (12) involving drilling and
cleaning a borehole, inserting a cartridge and tool therein, and detonating
the load remotely using a pull cord.



(88) Date of publication of the international search report:
22 July 2004

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/23615

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : CO6C 7/00

US CL : 102/275.11, 319; 227/52; 299/13; 175/4.56

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 86/20.15; 102/312, 313, 318, 322, 275.11, 319; 227/52; 299/13; 175/2, 4.56; 89/1.15

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4, 306, 628 A (ADAMS JR. ET AL) 22 December 1981 (22. 12. 1981) see entire disclosure	1-20
A	US 2, 257, 270 A (McCULLOUGH) 30 September 1941 (30. 09. 1941) see entire disclosure	1-20
A	US 5, 474, 364 A (RUZZI ET AL.) 12 December 1995 (12. 12. 1995) see entire disclosure	1-20

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"&"

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Date of the actual completion of the international search

18 November 2003 (18.11.2003)

Date of mailing of the international search report

12 APR 2004

Name and mailing address of the ISA/US

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